

Payload bay exhibit opens in Building 2

A new display at JSC will allow visitors to walk through a fullscale Space Shuttle payload bay, see and touch replicas of Space Shuttle equipment, and in the future watch real-time video transmissions from onboard cameras during space missions.

The 15 by 50 foot payload bay display opened for the public Saturday April 26. The exhibit was a main attraction at the 1979 Paris Air Show after which it was dismantled and shipped to JSC to become a permanent part of the visitor program. It now sits at the south end of the Visitor Center (Building 2).

Visitors can enter the mockup (shortened 10 feet for installation) by a ramp, then walk through the orbiter's payload bay. Cargo in the exhibit will change with each mission of the Space Shuttle: the cargo on display today is a model of Spacelab. Planned for the near future as cargo is a model of a commercial satellite ready to be deployed into space.

Visitors will walk through the payload bay and out onto a pallet where experiments are exposed to the environment of space. They will then walk back to "Earth" via a ramp at the rear of the space ship.

A mannequin astronaut hovers just outside the model in a full space suit and

Please turn to Page 2

Engine Update

Space Shuttle main engine #2004, being tested at NASA's facility in Mississippi, has now been static fired a total of 3 hours and 35 minutes (12,911 seconds) without major overhaul. This is the equivalent of about 25 flights of the Space Shuttle.

This plateau was reached late April 19 when the engine was static fired a duration of 10 minutes and 10 seconds. During six minutes of this time, the engine ran at the 109% full power level, simulating power levels necessary for an abort to orbit during a Shuttle launch.

The test ended a series of three 10-minute static firings for full power level abort certification. The engine will now undergo inspection before beginning flight certification tests at 102% of rated power level.

Blood pressure clinics

Screening to take place around site

In some people, blood pressure is nearly always higher than it should be because their arteries clamp down or shut off making it harder for the blood to pass through. This makes their blood pressure rise.

During the week of May 12, the JSC Clinic will again conduct blood pressure screening clinics at various locations on-site. These clinics are free of charge and are open to both civil service and contractor personnel. Times and locations are as announced in the JSC Announcement. Do yourself a favor and have your blood pressure checked.

High blood pressure adds to the workload of the heart and arteries. The heart must pump with more force, and the



54-hour sim a success

Crews run through first mission

Controllers, trainers, and astronauts ran through the entire 54 hours of the first Space Shuttle mission April 22-24 and called it a successful simulation.

Launch, on-orbit, and entry procedures went smoothly in spite of a number of anomalies fed to the flight by trainers. "If we can overcome similar problems in an actual flight, we could definitely call that flight successful," said Flight Director Neil Hutchinson.

In the sim, the orbiter launched at 8 a.m. CST Tuesday and landed at Edwards at 2 p.m. Thursday.

On Day 2 a major problem challenged the controllers and crew. Part of the orbiter's avionics system, a black box that takes information from sensors and plat-



CapComs trained

forms, digests it, and sends out signals to the orbiter parts affected, had a partial failure. This meant that during entry the crew would have to sacrifice either backup attitude control or backup navigation data, as "we had to optimize the equipment to operate with only a partial system," Mr. Hutchinson said.

After 10 hours of debate over the loops, controllers opted for the attitude control. Throughout the night, they sent an updated checklist to the ship. The crew had gone to bed not knowing what the decision would be, so their first hour of Day 3 was crammed with data updates and explanations.

The crew and controllers overcame other problems throughout the sim. They lost one computer and got it going again, "but it was kind of suspect the rest of the flight," Mr. Hutchinson said.

Another of the five onboard computers crashed completely, and controllers and crew had to run through the procedure of replacing it with a spare that is carried onboard. This exercise had been run before with hands-on the hardware in the Shuttle Avionics Integration Lab.

Also on Day 2 controllers noticed a problem with the body flap located at the rear of the orbiter near the main engines.

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Star Party draws crowd Saturday

A man unfolds a map of the electromagnetic spectrum and explains it to his seven-year-old boy. His other children browse through bookshelves of a research room at the Lunar Planetary Institute.

Outside, telescopes are focused on Mars, Jupiter, Venus, Saturn, and the Moon—all in a line, all bright in the sky last Saturday night for the Astronomy Club's celebration of National Astronomy Day.

Up to 1000 persons milled through the LPI April 27 between 6 and 11 p.m. They pillaged NASA brochures and posters, read bulletin boards, watched films of Mars and Jupiter, and lounged in overstuffed chairs skimming picture books on the galaxies. For many it was their first introduction to what NASA has been doing since the missions to the Moon ten years ago.

Two speakers gave illustrated talks about the Solar System, but the highlight for the visiting public was on the LPI front lawn, the 16 telescopes ranging in size up to 16 inches focused on the different planets, taking advantage of the clear Saturday night air. It was an education for the adults as well as the many children who came.

"I see six moons around Jupiter," one young woman said.

"No," said that telescope's attendant, "two of those are background stars."

And at another telescope: "Why is the planet moving out of the picture so fast?"

"Its apparent motion is 15 km per second."

Organizers of the event were somewhat surprised at the turnout: only one press release was sent to Bay Area newspapers. The size of the crowd reflects the popularity of space sciences among the general public, a number of attendees said.

Don Halter, president of the JSC Astronomy Society, and Ron Weber of the LPI organized the star party. The club hopes it will be an annual event, and perhaps star parties will take place more often throughout the year.

Women's Week
May 13 - 16



Controllers worked out anomalies throughout sim

What's cookin'

Week of May 5 - 9

Monday: Cream of Chicken Soup; Beef Burgundy over Noodles; Fried Chicken; BBQ Sausage Link; Hamburger Steak (Special); Buttered Corn; Carrots; Green Beans. Standard Daily Items: Roast Beef; Baked Ham; Fried Chicken; Fried Fish; Chopped Sirloin. Selection of Salads, Sandwiches and Pies.

Tuesday: Beef Noodle Soup; Baked Meatloaf; Liver w/Onions; BBQ Spare Ribs; Turkey & Dressing (Special); Spanish Rice; Broccoli; Buttered Squash.

Wednesday: Clam Chowder; Broiled Fish; Tamales w/Chili; Spanish Macaroni (Special); Ranch Beans; Beets; Parsley Potatoes.

Thursday: Navy Bean Soup; Beef Pot Roast; Shrimp Chop Suey; Pork Chops; Chicken Fried Steak (Special); Carrots; Cabbage; Green Beans.

Friday: Seafood Gumbo; Broiled Halibut Fried Shrimp; Baked Ham; Tuna & Noodle Casserole (Special); Corn; Turnip Greens; Stewed Tomatoes

Week of May 12 - 16

Monday: Chicken Noodle Soup; Weiners & Beans; Round Steak w/Hash Browns; Meatballs & Spaghetti (Special); Okra & Tomatoes; Carrots; Whipped Potatoes. Standard Daily Items: Roast Beef; Baked Ham; Fried Chicken; Fried Fish; Chopped Sirloin. Selection of Salads, Sandwiches and Pies.

Tuesday: Beef & Barley Soup; Beef Stew; Shrimp Creole; Fried Chicken (Special); Stewed Tomatoes; Mixed Vegetables; Broccoli.

Wednesday: Mushroom Soup; Fried Perch; New England Dinner; Swiss Steak (Special); Italian Green Beans; Cabbage; Carrots.

Thursday: Cream of Chicken Soup; Turkey & Dressing; Enchiladas w/Chili; Weiners & Macaroni; Stuffed Bell Pepper (Special); Zucchini Squash; English Peas; Rice.

Friday: Seafood Gumbo; Baked Flounder; 1/4 Broiled Chicken w/Peach half; Salisbury Steak (Special); Cauliflower au gratin; Mixed Vegetables; Whipped Potatoes; Buttered Cabbage.

Good Reputation: One of the hardest of all things to get, and one of the easiest to lose.

54-hour sim, cont'd.

That flap keeps the spacecraft pitch neutrally stable during entry. If the flap would not move, it would mean more work for the elevons (wing flaps) which, because of overwork, could overheat and warp. Controllers worked through the night developing the procedure to move the center of gravity so it would trim at a different place on the orbiter, thus easing the workload on the elevons.

However, the orbiter came in as scheduled with no major problems.

"We ran through the entire 54-hour flight one time," Mr. Hutchinson said. The first day of the mission includes launch, a number of maneuvers to get into orbit, then opening of the payload bay doors.

Through the launch, the orbiter systems are cooled by water, "but there's a limited amount of water onboard," Mr. Hutchinson said. "On orbit the payload bay doors open and expose the radiators to space which cools everything onboard, including the crew."

In the morning of Day 2 of the mission, flight and ground crews run through a "dress rehearsal" of deorbit. "We do the same things we will have to do Day 3,

such as firing up the APUs (Auxiliary Power Units), closing the payload doors, and suiting up."

This "dress rehearsal" is part of the second day procedures to prepare the crew and the craft for an early entry should too many problems arise. That did not happen in this simulation.

The second half of Day 2 the crews test systems onboard the Shuttle. For ins-

tance, they make a detailed check of the maneuvering system engines and they try out the attitude control system in different modes.

The plan is to run one long-duration sim every six to eight weeks up until launch of STS-1, and in the interim every Tuesday and Thursday crews alternate between sims of launch aborts, on orbit activities, and entries.

Contractor injured in test

PLSS flash fire being investigated

An apparent flash fire in a test unit of the Shuttle portable life support system Friday April 18 injured a Hamilton Standard employee.

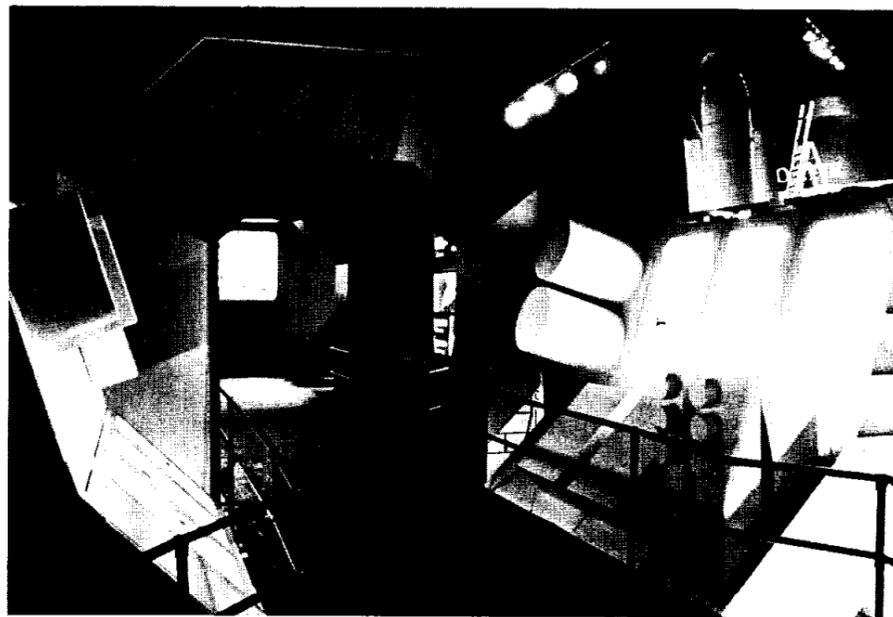
Robert A. Mayfield, 24, suffered second degree burns about the upper body. Mr. Mayfield is a flight hardware technician.

The fire took place at about 1:30 p.m. CST during a regulator performance test as the regulator was switched to the EVA

(extra-vehicular activity or spacewalk) mode. The clean room in JSC's Crew Systems Lab was damaged, and the life support system and space suit were extensively fire-damaged.

The portable life support system contains two tanks of oxygen pressurized at 3000 pounds.

Further information will be available following an investigation by the Safety Review Board which formed immediately after the accident.



Payload bay display at 1979 Paris Air Show

Display, cont'd

jet backpack, demonstrating crew work outside the orbiter. On display in the future will be a replica of the remote maneuvering arm, or space crane, that will be used on the Shuttle to deploy and retrieve satellites in space.

"With this exhibit people will be able to get the effect and relate to the size of the Shuttle's cargo-carrying capacity," Chuck Biggs, Chief of Public Services, said.

Until the first Space Shuttle mission, tapes of flight simulations will play inside the exhibit. Later, videotapes of each mission as it takes place will be patched into the exhibit.

Within 60 days a 1/15 scale model of the Space Shuttle mounted for launch will arrive from Rockwell to sit in front of the exhibit.

Bulletin Board

AIAA Executive to Speak on the Politics of Aerospace

Engineers, scientists, and their professional organizations have a big job to do in explaining why their products, technology, and R&D efforts are important to the country. On May 20 James J. Harford, AIAA Executive Secretary and General Manager will speak on "The Politics of Aerospace" at the AIAA dinner meeting. Social hour starts at 6 p.m., and dinner at 7; cost for members is \$6, for nonmembers, \$7. The program starts at 8, and there is no charge to attend the program only. Dinner reservations must be made by noon May 16. JSC employees should contact Fran- cie at x4121.



Harford

The meeting will be at the Gilruth Center.

On Sale at the JSC Exchange Store

(Store Hours 10 a.m. to 2 p.m.)
Dean Goss tickets: \$10 single, \$20 couple (Regular \$14.50)
General Cinema tickets: \$2.40 ea.
Astroworld tickets: \$8 (Regular \$9.95)
Six Flags Over Texas tickets \$8 for one day (Regular \$9.95) \$9.95 for two days (Regular \$14.95)
Magic Kingdom Cards: Free
Sea-Arama Marineworld Fun-Time card: Free

Go Down with the Lunarfin's, Under the Sea

Thinking of getting down? Go down with the Lunarfin's, the scuba diving club at JSC. The Lunarfin's is an active club which promotes safe sport diving through international trips and our own Texas backyard of lakes and the Gulf of Mexico. Some of the Lunarfin's features include equipment rental to members, complete fully certified scuba courses for beginners, and interesting programs at club meetings. Next meeting is set for May 21, Wednesday, at Clear Lake Park Building at 7:30 p.m. For more information call Rodney Rocha, 480-1340 after 5.

Learn the Basics of Running a Small Business

The Service Corps of Retired Executives and the Small Business Administration will sponsor a workshop on the "Basics of Running a Small Business" at the University of Houston Continuing Education Center, 4800 Calhoun, Entrance No. 1, on May 7, from 8 a.m. to 4:30 p.m. For further information call 226-4945.

1st Annual Spring Ball Comes Up May 31

Spring is busting out all over! Here's your chance to celebrate. The date is May 31 at Gilruth Center. The night's entertainment includes a delicious prime rib dinner, beverages, and dancing to two bands. In the banquet room, we have "The Jerry Vann Orchestra" for all you ballroom dancers. Jerry has expanded his repertoire to include more of the Latin music that so many of you have requested. On the gym side, we feature

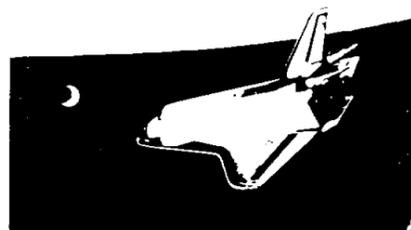
"Dialogg" which you will remember from the 1978 Christmas Dance. Their selection of Disco music is excellent. Doors open at 7 for cocktails, dinner will be served from 8 to 9, and dancing at 9. Admission is \$15 per person. Tickets will be on sale May 12 thru May 23 in Building 11 Cafeteria. Sales are limited to 600. Seating will be on a "first-come basis" in both the banquet room (ballroom music) and gym (disco music).

South Central Women's Studies Conference to be October 18-19.

The South Central Women's Studies Association is putting on its 1980 Conference October 18-19 at the University of Texas at Arlington. Conference Coordinator Jeanne Ford invites proposals for panels and papers, exhibits and perform-

Continued on page 3

Roundup deadline is the first Wednesday after publication.



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Editor Kay Ebeling

Are vitamins OK?

"There's controversy as to the needs for vitamin supplements. Most nutritionists believe that a balanced diet will provide adequate amounts of vitamins. Americans spend between \$300 and \$500 million dollars each year on excess vitamins."

Dr. Eugene Coleman spoke on the question—Should you take vitamins?—at a recent retirement seminar at JSC. Dr. Coleman is a University of Houston professor and a physical fitness consultant.

"There are some who contend that vitamin C is a cureall. Roger Williams, a professor emeritus at The University of Texas at Austin, contends that consumption of Vitamin C and Vitamin E minimize joint stiffness and prevent aging. He's proven this with rats.

"Linus Pauling, who won a Nobel Prize, recommends that ingestion of between 1000 and 5000 mg of Vitamin C a day will prevent backache and colds.

"Most nutritionists however do not agree with Dr. Pauling. They say that excessive doses such as Dr. Pauling recommends can cause stomach kidney and bladder problems.

"In light of these authorities, it might not be wise to consume more than the recommended daily allowance established by the National Research Council: Vitamin C around 45 mg a day and Vitamin E around 15 mg a day.

"It's good to avoid the attitude: 'A little bit's good, so a whole lot's gotta be better.' You can eat too much jello, and the jello becomes toxic. In the same way, some vitamins actually become toxic.

"No wonder food exists. No one food contains sufficient levels of all vitamins. So to insure that you're receiving the necessary vitamins, eat a balanced diet and eat a variety of foods."

Length of Service Awards

35 Years



Howard Kyle



James Weaver



Bill Johnson

25 Years

Galloway Foster
Zelton Eubanks
Phoncille DeVore
Bill Derbing
Curley Dartez
Vance Jones
Hubert Davis
Gerald Katje
James Kessel
Robert Pereboom
Jean Redford
William Whipkey
James Crain
Harry Dobson
William Hensley

30 Years

Carlos Ramirez
Alfred Ligrani
Joseph Haulbrook
Raymond Wilson
John Kiker
Charles Ritchie
Cecil Roby
Tom Brahm

79 play golf

Seventy-nine of the JSC Golf Association golfers showed up at Tejas Golf Club April 12 for tournament competition. This was the initial outing for the championship and first flights, and the second for the second flight.

Low net for the day was **Tom Dennis** (66), who has won both second flight tournaments. The next two places were won by **Ron Corron** (70) and **Dave Nichols** (71).

The championship winners were **Bob Ross** (67), **Milt Heflin** (67), and **Ted Breezy** (70). First flight was won by **Tom Chambers** (68), **Harold Epps** (70), and **Reagan Redman** (70).

On May 3 the championship and first flights try to make up the Goose Creek C. C. Tournament which has been rained out twice. The following week, all three flights play at Wortham G. C.

Don't miss deadlines

Groups need to get announcements in to the *Roundup* often two and a half weeks before an event in order to make publication deadlines. For instance if your meeting takes place June 28, the notice (10 lines maximum) must be on the editor's desk by June 11.

We cannot guarantee space for your notices if they are received after deadline (the first Wednesday after publication). Please cooperate and plan for a two and a half week lead time for your announcements.

Roundup Swap Shop

Property & Rentals

Wanted-housing or bedroom accommodations for summer ASEE faculty fellows. Mid-June through August. Call Nancy Robertson x4724

Room, board, and laundry services furnished in exchange for low rent (\$80/month) plus light chauffering and/or housecleaning help. Audrey 485-2583 or Carl 488-7980 x54.

For rent, one bedroom in a 3br house w/kitchen privileges, 6 mi from NASA. Female only 482-2079.

Rent/lease Friendswood 3.2.1, fenced, clean, near schools, \$425/month plus deposit. 482-7546.

Rent Jamaica Beach cottage, \$210/wk. two bedrooms, one bath. Make reservations now for summer season. 334-1640 after 6.

Friendswood, 3-2-2, new paint, nice neighborhood, convenient location, easy terms, \$475/mo plus deposit. Frank x5303 or 482-6609 after 5.

Lake Livingston lot, trees, tennis, boat ramp, good investment, owner finance 9% \$200 down, total price \$2440. T. Ward x5971.

House available June 1st, 2150 sq. ft. in Pasadena \$550 mo., 1-yr lease. 481-1695.

Luxury 1-br condo in exclusive Friendswood development. Full kitchen, washer and dryer, enclosed garage, \$325. 482-2677.

Lease c/c condo, 1 bedrm, 1 bath, waster/dryer, \$280/mo plus deposit. No utilities. Rick 486-8216, 333-4210 x353.

Rent, Lake Livingston, Cape Royale 3 bdrm waterfront cottage by marina, tennis, pool, golf, boat ramp. By week. 488-3746

For lease, Glen Cove (League City), overlooking lake and park w/private boat ramp, 2 br, 2 bath, den, fireplace, unfurnished; \$475/mo. 474-3670 or 474-5447 eve.

Lease: Baywind condo, 1-1, fireplace, appliances, carpeted, balcony, immaculate, \$265/mo + deposit, 488-6948 after 11 am.

For Sale: Two large lots in Eagle Rock Rancheros, Woodcreek Village, Wimberley, Texas. Call 471-3494, or X5419.

For Sale: GE Refrig., 3 yrs old, compressor out, \$50.00. Call Meider, 2688.

Cars & Trucks

78 Camaro lt, maroon, one owner, power brakes, steering, a/c, auto, good cond, bargain at \$4500. Peacock x2208 or 486-0159

73 VW sports bug, yellow with am-fm radio, boat hitch, and extra tires. Best offer. Jerry 333-2778 or x6486

73 Capri, good mileage, ac, \$995. x2693 or 488-7807

77 Silverado pickup, ac, fm cassette, power, automatic, \$2500. x2693 or 488-7807.

72 Chrysler town and country sta wagon, 440 v-8 rebuilt engine, radial tires, electric windows, \$1000. 339-1444.

72 Pontiac Catalina, high mileage but runs great, exc tires, \$500. x3796 or 482-3678

74 Subaru gl 2 dr, 4 spd, ac, regular gas, very economical, 52,500 mi. almost new tires. Jeff x7429 or 482-5393 after 5.

79 Jimmy, 2wd, 5-50 warranty, fully loaded, make offer. 337-4176.

72 Corvette convertible with hardtop, air, 4-speed, 350, power steering, Vermillion x4436 or 944-8282.

71 Pontiac Bonneville, exc cond, fair tires, great second car. 332-5004

Household Articles

Antique dr set, table, 6 chairs, and buffet, 87 years old, \$600. Hansen x4418 or 488-8977.

Baby furniture, bed, high chair, playpen, etc. 774-4321.

Queen-sized mattress and boxspring set, very good cond, \$70. Briley x6128 or 488-7901 after 5.

Sears 2 ton a/c, \$195. King-size headboard, \$30. Sewing cabinet, \$15. End table, \$10. Coffee table, \$30. 482-8827

Refrigerator/freezer, Sears two door frost free in white, approx 1-1/2 yrs old, perfect, \$225. Lockard x4501 or 333-3925

Garage sale, May 17-18, 9-5, 3912 Dover Street in Park Place, misc household goods.

35 sq. yards plus green carpet, \$100. 482-7546

Lost & found

Found bracelet, near Gilruth Center. Jean x4546

Secretary of the Month

She's an organizer and planner

As branch secretary to the Flight Activities Branch, Virginia Nester is responsible for planning and organizing branch filing systems, typing correspondence and technical reports, distribution of mail, preparation of travel, and leave and earnings records. She is also responsible for stocking supplies, ordering office equipment, and greeting visitors to the branch office.

Ms. Nester sets high standards of performance for herself and the section secretary who assists her in the Flight Activities Branch. She has an excellent capacity to put office tasks in priority to insure that critical flight procedures and Flight Data File articles are available for crew training and mission support.

She maintains a pleasant approach both on the phone and to questions. Her performance at office skills is excellent. Many reports have to be letter perfect, and Ms. Nester produces these and all other typing tasks in an extremely rapid fashion. She is innovative and resourceful



Virginia Nester

in completing her assigned duties, and she offers excellent suggestions on office procedure which improve operations.

Ms Nester clearly enjoys her work, she is dedicated to doing a superior job at whatever she does, and the Flight Activities Branch benefits tremendously from the resultant top-quality office support. She is genuinely deserving of JSC's Outstanding Secretary Award for March.

Bulletin Board, cont'd

ances, and suggestions for other activities appropriate to the conference themes. "It will be like a state fair focusing on the women's experience. It will offer an on-going series of panels and presentations on topics that touch the lives of everyone," Ms. Ford said. Contact her for further information at P. O. Box 19528/University of Texas at Arlington/Arlington, TX 76019.

Gilruth Center Active

Registration is now being accepted for a Defensive Driving class and a course in Intermediate Auto Mechanics. Also, intense competition is brewing up between JSC and UH/CLC with teams forming for basketball, tennis, running, racquetball, softball, volleyball, and flag football.

A tennis instructor is needed, and the Rec Center is now accepting registration

for volleyball teams. Go by the Rec Center or call for more information: x3594.

Women's Week to Take Place May 13-May 16

"Elements of Interviewing," "What You Are Isn't Necessarily What You Will Be," "Turning On Your Own Key," "Women Are Not Special," "Pleasure and Pain of Competing," "Discover Yourself," and "Putting It All Together,"—these are titles of speeches and presentations to be made next week for Women's Week. The programs take place in Gilruth Center opening with a luncheon at 11:30 Tuesday. Speeches and presentations take place from 9 - 2:30 Wednesday through Friday.

Ads must be under 20 words total per person, double spaced, and typed or printed. Deadline for submitting or cancelling ads is 5 p.m. the first Wednesday after publication. Send ads to AP3 *Roundup*, or deliver them to the Newsroom, Building 2 annex. No phone-in ads will be taken. Swap Shop is open to JSC federal and on-site contractor employees for non-commercial personal ads.

Miscellaneous

AM/FM/cassette car stereo radio, 2 yrs old, \$35. AM pushbutton car radio, 2 yrs old, \$25. John Mitchell x3741

One 2-mantle (camping) lantern, used 3-4 times, \$10; and one exercise bike, \$35. Adams x3121 or 337-3973

Camper cover for 1978 chevy long wheel base luv pu, \$175. Installed, firm. Corey 554-2901 after 5.

Motorcycle helmet, full face bell star racing helmet, \$25. Ron 488-1550

77 Rockwood 24 ft. travel trailer, fully equip, air, furnace, shower, etc. mint cond, \$5500. x275 or 488-0658

Spectra-physics laser .5 to .9 mw output for sale. Ideal for doing holography; used only a few hours; in original carton; \$95. L. Bell x3469 or 482-6357.

Bay Area Racquet Club - single membership Jane Lehman 3954.

Complete shop manual set for all 1978 Ford Motor Co. cars, \$12. Nitsch x4941 or 482-3969

Ford 289 engine. Runs, but needs overhaul, \$100. 487-0155.

For sale: Special MCC commemorative marsupial medallions. By guaranteed analysis each piece contains no less than .07% pure 'roo. Hutchinson, CF.

Carpools

Form carpool Southwest Houston (Post Oak at Willowbend or Stella Link/610 loop), 8-4:30 (adjustable). Leona x3786 or 721-3721

Want to join carpool from North Houston to NASA, 8-4:30 shift. Ed Pena, 486-1355.

Want to join non-smoking carpool, Freeport, Texas or points in between to JSC, approx 8-5. Gregory x3855.

4th carpooler from Sun Valley/Freeway Manor area. Reserved parking between b-15 and b-13. 7:30-4:15. Ron x3526 or Roger x2764.

Cycles

74 Honda 125 mt, exc cond equipped for street, tires and rear sprocket for dirt incl. \$450. 334-3170 eve.

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INSTEAD, JUST
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REPORT ON JSC FORM 1150
TO BE-3

Space processing sims at Marshall

A unique technique for conducting containerless materials processing experiments in a simulated space environment has been developed at Marshall Space Flight Center in Huntsville, Ala.

The technique uses a "drop tube" facility consisting of a high-vacuum bell jar above a four-inch-diameter, 100-foot-tall (30.5-meter), stainless steel tube.

Various high-technology materials which show promise for processing in space are melted and released as molten drops to free-fall down the tube from which most of the air has been removed. The drops cool and solidify while free-falling, thus duplicating containerless solidification in low gravity.

Materials being studied include the best superconductors; metal alloys that form glassy structures used in electric motors, generators, and transformers; nickel alloys used in high-temperature turbine blades; and silicon solar cell materials.

Samples prepared using this technique are retrieved from a catcher at the bottom of the tube and analyzed for improvements in their physical or structural properties resulting from processing in the containerless, weightless conditions.

Improvements found so far include much less contamination than would be found in materials solidified in standard furnace crucibles; enhanced superconducting properties; the formation of more structurally uniform single-crystal materials; and the formation of certain new solid materials that will not form when solidified in crucibles in Earth's gravity.

Although limited to only 2.6 seconds of low-gravity processing time, the Marshall Center drop tube offers an inexpensive way to develop and perfect techniques which will lead to full-scale experiments to be flown in space.

More exploratory experiments can be done using the drop tube because of its flexibility and the quick turn-around possible in designing and changing material processing experiment conditions.



Ash, steam with telephoto lens



'An avalanche came halfway down the mountain.'

Some people are satisfied with newspaper coverage. But when Paul Maley hears about an astronomical event, he grabs his camera, cashes his paycheck, and catches the first flight to the location. Last month the rumble of the Mt. St. Helens volcano sent him to Washington state with camera and film, the product of which is featured on this page. "We were about two miles from the summit when there was an earthquake that registered 4.5 on the Richter scale. About an hour later an avalanche came halfway down the mountain. An hour after that there was another major eruption and pine trees that were seven feet under snow were swaying about 10 degrees. It was really something to see." Mr. Maley takes these photos as a hobby, although he brought back ash samples from Mt. St. Helens for analysis by NASA and Rice University. Mr. Maley is a payload systems engineer with Ford Aerospace and Communications Corp., working in FOD, in the Payload Operations Division. In the past he has gone to Greece, Canada, Georgia, Mexico, and Columbia to photograph eclipses. Last December he caught the first picture ever taken of an occultation of a star by an asteroid. He may go next year to Siberia to shoot an eclipse, but he plans no more trips to Washington state in the near future. "The danger in shooting the volcano is just immense," he understates.



'We were about two miles from the summit.'

Supervisors can spot drinking problems

Jane is normally a hard-working, high-achieving employee, but lately her work is declining. She comes in late, she's irritable, her work is sloppy, and she misses deadlines. Jane has an addiction problem.

Her supervisors have noticed the decline in her work, but so far they have covered for her. She's just going through a bad period, they think, and assign her work to other employees.

Her supervisors are making a mistake that could cost Jane her life.

Programs such as JSC's Employee Assistance Program exist to help persons such as Jane and her supervisors deal with a major problem. At JSC Connie Alexander and Gene Horton co-administer the program at x-6130 (a direct line).

They provide counselling and referral for persons with drug or alcohol problems, or advise supervisors on steps to take with employees who show signs of problems.

One arm of the Employee Assistance Program is presentations such as one in Building 30 Auditorium April 22. The program, aimed at supervisors, showed how to recognize signs of addiction, and why it is important to refer an employee for counselling.

Another presentation for supervisors will take place Tuesdays, May 6, at 11:30 in Building 30 Auditorium.

"It is not the supervisor's job to diagnose," Ms. Alexander said. "That's the

reason for the Employee Assistance Program."

No stranger to handicaps herself, Ms. Alexander is blind from retinitis pigmentosa, but she conducts guidance and counselling sessions with self-confidence and professionalism that have earned her high marks from employees who have taken part in the program.

In the presentation last week, one of Ms. Alexander's colleagues spoke: "My name is Joy West, and I'm a recovering alcoholic." Tailored in a stylish dress, intelligent eyes, a slight falter in her voice, Ms. West described years of addiction, "I was on some kind of chemical from the time I was 20 years old," and pain, "Alcoholism triggers other diseases—flu, emphysema, gastritis, high blood pressure. I have cirrhosis of the liver now and I've been clean for nine years."

She described getting unneeded surgery while she was drinking, the years of self-depreciation, being treated for alcoholism with other addictive drugs, and finally going to an Alcoholics Anonymous meeting.

"I found out that alcoholics are not skid row bums. They are middle class and above, and above average intelligence persons," Ms. West said.

She stressed that alcohol is only one drug, whose addicts tend to depend on a number of mind-altering substances.

"Pot is an addictive drug," she said. "Many alcoholics subsist on it through the day until they can have a drink."

"There is now a Narcotics Anonymous office in Houston," Ms. Alexander said.

It used to be alcoholics did not come for help until their lives were falling apart. Ms. West said. "Today, perhaps because of all the advertising, perhaps because of programs like this, people are becoming aware of a problem as it is developing, and they are cutting back on drinking to avoid the disease.

"Once you have the disease there is no cure, you can only arrest it by absence of alcohol."

Absence from work, irritability, red eyes, missing deadlines, these are all signs of an alcohol or drug problem.

"A supervisor is especially well equipped to see the symptoms in an employee," Ms. Alexander said. "It is our role (The Employee Assistance Program) to take the responsibility off you."

Statistics show that 7 to 10% of American adults have drinking or drug problems. This causes over a \$2 billion loss in productivity in a year. A supervisor's job is to get work out of people; it's the program's job to give professional help.

The phone number (x-6130) is a direct line: (There will be no secretary asking, "May I tell her who's calling?") Location of the office is confidential as is by law any discussion held in the office. The assistance program works closely with medical doctors at the center.

"Calling the program is not going to cost an employee his job," Ms. Alexander said, "but it could save his life."

20 Questions

1. Do you lose time from work due to drinking?
2. Is drinking making your home life unhappy?
3. Do you drink because you are shy with other people?
4. Is drinking affecting your reputation?
5. Have you ever felt remorse after drinking?
6. Have you gotten into financial difficulties as result of drinking?
7. Do you turn to lower companions and an inferior environment when drinking?
8. Does your drinking make you careless of your family's welfare?
9. Has your ambition decreased since drinking?
10. Do you crave a drink at a definite time daily?
11. Do you want a drink the next morning?
12. Does your drinking cause you to have difficulty in sleeping?
13. Has your efficiency decreased since drinking?
14. Is drinking jeopardizing your job or business?
15. Do you drink to escape from worries or troubles?
16. Do you drink alone?
17. Have you ever had a complete loss of memory as a result of drinking?
18. Has your physician ever treated you for drinking?
19. Do you drink to build up your self confidence?
20. Have you ever been to a hospital or institution on account of drinking?

If you have to answer "yes" to as few as three questions, you can be reasonably certain that alcohol has become, or is becoming, a problem.